

What is claimed is:

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D.*
1. An integrated circuit package comprising:
a substrate;
a die; and
a material having a Young's modulus of between about .1 megapascals and about 20 megapascals, at a solder reflow temperature, attaching the die to the substrate.
 2. The integrated circuit package of claim 1, wherein the substrate comprises a ceramic.
 3. The integrated circuit package of claim 1, wherein the die comprises one or more memory circuits.
 4. The integrated circuit package of claim 1, wherein the die comprises one or more processor circuits.
 5. The integrated circuit package of claim 1, wherein the die comprises one or more logic circuits.
 6. The integrated circuit package of claim 1 wherein the die comprises one or more application specific integrated circuits.
 7. The integrated circuit package of claim 1, wherein the material comprises a poly epoxide formed from one epoxide.
 8. The integrated circuit package of claim 1, wherein the material comprises a poly epoxide formed from two or more epoxides.

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9. The integrated circuit package of claim 1, wherein the material comprises a polyacrylate.
 10. The integrated circuit package of claim 1, wherein the material comprises a polyolefin.
 11. The integrated circuit package of claim 1, wherein the material comprises a polyimide.
 12. The integrated circuit package of claim 1, wherein the material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.
 13. The integrated circuit package of claim 1, wherein the material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.
 14. The integrated circuit package of claim 1, wherein the material comprises a mixture of a poly epoxide and a polyimide.
 15. The integrated circuit package of claim 1, wherein the material comprises a copolymer of a poly epoxide and a polyimide.
 16. The integrated circuit package of claim 1, wherein the material has a Shore A hardness of greater than about 70.
 17. The integrated circuit package of claim 1, wherein the material has a Shore D hardness of greater than about 20.
 18. An integrated circuit package comprising:
a substrate;
a die; and

a material having a coefficient of thermal expansion α_2 of less than about 400 (four-hundred) ppm/ $^{\circ}$ C attaching the die to the substrate.

19. The integrated circuit package of claim 18, wherein the substrate comprises a single metal layer glass-epoxide.

20. The integrated circuit package of claim 18, wherein the die comprises one or more processor circuits.

21. The integrated circuit package of claim 18 wherein the die comprises one or more memory circuits.

22. The integrated circuit package of claim 18, wherein the die comprises one or more logic circuits.

23. The integrated circuit package of claim 18, wherein the die comprises one or more application specific integrated circuits.

24. The integrated circuit package of claim 18, wherein the material comprises a poly epoxide formed from one epoxide.

25. The integrated circuit package of claim 18, wherein the material comprises a poly epoxide formed from two or more epoxides.

26. The integrated circuit package of claim 18, wherein the material comprises a polyacrylate.

27. The integrated circuit package of claim 18, wherein the material comprises a polyolefin.

28. The integrated circuit package of claim 18, wherein the material comprises a polyimide.
29. The integrated circuit package of claim 18, wherein the material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.
30. The integrated circuit package of claim 18, wherein the material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.
31. The integrated circuit package of claim 18, wherein the material comprises a mixture of a poly epoxide and a polyimide.
32. The integrated circuit package of claim 18, wherein the material comprises a copolymer of a poly epoxide and a polyimide.
33. The integrated circuit package of claim 18, wherein the material has a Shore A hardness of greater than about 70.
34. The integrated circuit package of claim 18, wherein the material has a Shore D hardness of greater than about 20.
35. An integrated circuit package comprising:
a substrate;
a die; and
a rigid die attach material attaching the die to the substrate.
36. The integrated circuit package of claim 35, wherein the substrate comprises a printed circuit board.

37. The integrated circuit package of claim 35, wherein the die comprises a communication circuit.
38. The integrated circuit package of claim 35, wherein the die comprises one or more memory circuits.
39. The integrated circuit package of claim 35, wherein the die comprises one or more processor circuits.
40. The integrated circuit package of claim 35, wherein the die comprises one or more logic circuits.
41. The integrated circuit package of claim 35, wherein the die comprises one or more application specific integrated circuits.
42. The integrated circuit package of claim 35, wherein the rigid die attach material comprises a poly epoxide formed from one epoxide.
43. The integrated circuit package of claim 35, wherein the rigid die attach material comprises a poly epoxide formed from two or more epoxides.
44. The integrated circuit package of claim 35, wherein the rigid die attach material comprises a polyacrylate.
45. The integrated circuit package of claim 35, wherein the rigid die attach material comprises a polyolefin.
46. The integrated circuit package of claim 35, wherein the rigid die attach material comprises a polyimide.

47. The integrated circuit package of claim 35, wherein the rigid die attach material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.
48. The integrated circuit package of claim 35, wherein the rigid die attach material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.
49. The integrated circuit package of claim 35, wherein the rigid die attach material comprises a mixture of a poly epoxide and a polyimide.
50. The integrated circuit package of claim 35, wherein the rigid die attach material comprises a copolymer of a poly epoxide and a polyimide.
51. The integrated circuit package of claim 35, wherein the rigid die attach material has a Shore A hardness of greater than about 70.
52. The integrated circuit package of claim 35, wherein the rigid die attach material has a Shore D hardness of greater than about 20.
53. An electronic system package comprising:
a circuit board;
a die; and
a material having a Young's modulus of between about .1 megapascals and about 20 megapascals at a solder reflow temperature of between about 200 degrees Centigrade and 280 degrees Centigrade, the material attaching the die to the circuit board.
54. The electronic system package of claim 53, wherein the circuit board comprises a flexible circuit board.

55. The electronic system package of claim 53, wherein the die comprises an integrated circuit fabricated on silicon.
56. The electronic system package of claim 53, wherein the die comprises one or more memory circuits.
57. The electronic system package of claim 53, wherein the die comprises one or more processor circuits.
58. The electronic system package of claim 53, wherein the die comprises one or more logic circuits.
59. The electronic system package of claim 53, wherein the die comprises one or more application specific integrated circuits.
60. The electronic system package of claim 53, wherein the material comprises a poly epoxide formed from one epoxide.
61. The electronic system package of claim 53, wherein the material comprises a poly epoxide formed from two or more epoxides.
62. The electronic system package of claim 53, wherein the material comprises a polyacrylate.
63. The electronic system package of claim 53, wherein the material comprises a polyolefin.
64. The electronic system package of claim 53, wherein the material comprises a polyimide.

65. The electronic system package of claim 53, wherein the material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.
66. The electronic system package of claim 53, wherein the material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.
67. The electronic system package of claim 53, wherein the material comprises a mixture of a poly epoxide and a polyimide.
68. The electronic system package of claim 53, wherein the material comprises a copolymer of a poly epoxide and a polyimide.
69. The electronic system package of claim 53, wherein the material has a Shore A hardness of greater than about 70.
70. The electronic system package of claim 53, wherein the material has a Shore D hardness of greater than about 20.
71. An electronic system package comprising:
a circuit board;
a die; and
a material having a coefficient of thermal expansion α_2 of less than about 400 (four-hundred) ppm/ $^{\circ}$ C at a solder reflow temperature of about between about 200 degrees Centigrade and about 280 degrees Centigrade, the material attaching the die to the circuit board.
72. The electronic system package of claim 71, wherein the circuit board comprises a multi-metal layer circuit board.

73. The electronic system package of claim 71, wherein the die comprises gallium arsenide.

74. The electronic system package of claim 71, wherein the material comprises one or more polyimides.

75. The electronic system package of claim 71, wherein the die comprises one or more memory circuits.

76. The electronic system package of claim 71, wherein the die comprises one or more processor circuits.

77. The electronic system package of claim 71, wherein the die comprises one or more logic circuits.

78. The electronic system package of claim 71, wherein the die comprises one or more application specific integrated circuits.

79. The electronic system package of claim 71, wherein the material comprises a poly epoxide formed from one epoxide.

80. The electronic system package of claim 71, wherein the material comprises a poly epoxide formed from two or more epoxides.

81. The electronic system package of claim 71, wherein the material comprises a polyacrylate.

82. The electronic system package of claim 71, wherein the material comprises a polyolefin.

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83. The electronic system package of claim 71, wherein the material comprises a polyimide.
84. The electronic system package of claim 71, wherein the material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.
85. The electronic system package of claim 71, wherein the material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.
86. The electronic system package of claim 71, wherein the material comprises a mixture of a poly epoxide and a polyimide.
87. The electronic system package of claim 71, wherein the material comprises a copolymer of a poly epoxide and a polyimide.
88. The electronic system package of claim 71, wherein the material has a Shore A hardness of greater than about 70.
89. The electronic system package of claim 71, wherein the material has a Shore D hardness of greater than about 20.
90. An electronic system package comprising:
a circuit board;
a die; and
a rigid die attach material attaching the die to the substrate.

91. The electronic system package of claim 90, wherein the circuit board comprises a multi-metal layer circuit board.

92. The electronic system package of claim 90, wherein the die comprises germanium.
93. The electronic system package of claim 90, wherein the die comprises one or more memory circuits.
94. The electronic system package of claim 90, wherein the die comprises one or more processor circuits.
95. The electronic system package of claim 90, wherein the die comprises one or more logic circuits.
96. The electronic system package of claim 90, wherein the die comprises one or more application specific integrated circuits.
97. The electronic system package of claim 90, wherein the rigid die attach material comprises a poly epoxide formed from one epoxide.
98. The electronic system package of claim 90, wherein the rigid die attach material comprises a poly epoxide formed from two or more epoxides.
99. The electronic system package of claim 90, wherein the rigid die attach material comprises a polyacrylate.
100. The electronic system package of claim 90, wherein the rigid die attach material comprises a polyolefin.
101. The electronic system package of claim 90, wherein the rigid die attach material comprises a polyimide.

102. The electronic system package of claim 90, wherein the rigid die attach material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.

103. The electronic system package of claim 90, wherein the rigid die attach material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.

104. The electronic system package of claim 90, wherein the rigid die attach material comprises a mixture of a poly epoxide and a polyimide.

105. The electronic system package of claim 90, wherein the rigid die attach material comprises a copolymer of a poly epoxide and a polyimide.

106. The electronic system package of claim 90, wherein the rigid die attach material has a Shore A hardness of greater than about 70.

107. The electronic system package of claim 90, wherein the rigid die attach material has a Shore D hardness of greater than about 20.

108. An integrated circuit package comprising:
a ceramic substrate;
a die; and
a material having a Young's modulus of between about .1 and about 20, at a solder reflow temperature, attaching the die to the substrate.

109. The integrated circuit package of claim 108, wherein the ceramic substrate comprises a multi-metal layer ceramic substrate.

110. The integrated circuit package of claim 108, wherein the die comprises a communication circuit fabricated on a semiconductor.
111. The integrated circuit package of claim 108, wherein the die comprises one or more memory circuits.
112. The integrated circuit package of claim 108, wherein the die comprises one or more processor circuits.
113. The integrated circuit package of claim 108, wherein the die comprises one or more logic circuits.
114. The integrated circuit package of claim 108, wherein the die comprises one or more application specific integrated circuits.
115. The integrated circuit package of claim 108, wherein the material comprises one or more epoxides, poly epoxides, copolymers of epoxides, or mixtures thereof.
116. The integrated circuit package of claim 108, wherein the material comprises a poly epoxide formed from one epoxide.
117. The integrated circuit package of claim 108, wherein the material comprises a poly epoxide formed from two or more epoxides.
118. The integrated circuit package of claim 108, wherein the material comprises a polyacrylate.
119. The integrated circuit package of claim 108, wherein the material comprises a polyolefin.

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120. The integrated circuit package of claim 108, wherein the material comprises a polyimide.
121. The integrated circuit package of claim 108, wherein the material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.
122. The integrated circuit package of claim 108, wherein the material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.
123. The integrated circuit package of claim 108, wherein the material comprises a mixture of a poly epoxide and a polyimide.
124. The integrated circuit package of claim 108, wherein the material comprises a copolymer of a poly epoxide and a polyimide.
125. The integrated circuit package of claim 108, wherein the material has a Shore A hardness of greater than about 70.
126. The integrated circuit package of claim 108, wherein the material has a Shore D hardness of greater than about 20.
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127. An integrated circuit package comprising:
a ceramic substrate;
a die; and
a material having a low coefficient of thermal expansion attaching the die to the substrate.
128. The integrated circuit package of claim 127, wherein the ceramic substrate comprises a single layer ceramic substrate.

129. The integrated circuit package of claim 127, wherein the die comprises a processor fabricated on a semiconductor.
130. The integrated circuit package of claim 127, wherein the die comprises one or more memory circuits.
131. The integrated circuit package of claim 127, wherein the die comprises one or more logic circuits.
132. The integrated circuit package of claim 127, wherein the die comprises one or more application specific integrated circuits.
133. The integrated circuit package of claim 127, wherein the material comprises one or more polyolefins.
134. The integrated circuit package of claim 127, wherein the material has a Shore A hardness of greater than about 70.
135. The integrated circuit package of claim 127, wherein the material has a Shore D hardness of greater than about 20.
136. An integrated circuit package comprising:
a ceramic substrate;
a die; and
a rigid die attach material attaching the die to the substrate.
137. The integrated circuit package of claim 136, wherein the ceramic substrate comprises a multilayered ceramic substrate.

138. The integrated circuit package of claim 136, wherein the die comprises germanium.
139. The integrated circuit package of claim 136, wherein the die comprises one or more memory circuits.
140. The integrated circuit package of claim 136, wherein the die comprises one or more processor circuits.
141. The integrated circuit package of claim 136, wherein the die comprises one or more logic circuits.
142. The integrated circuit package of claim 136, wherein the die comprises one or more application specific integrated circuits.
143. The integrated circuit package of claim 136, wherein the rigid die attach material comprises one or more epoxides, poly epoxides, copolymers of epoxides, or mixtures thereof.
144. The integrated circuit package of claim 136, wherein the rigid die attach material comprises a poly epoxide formed from one epoxide.
145. The integrated circuit package of claim 136, wherein the rigid die attach material comprises a poly epoxide formed from two or more epoxides.
146. The integrated circuit package of claim 136, wherein the rigid die attach material comprises a polyacrylate.
147. The integrated circuit package of claim 136, wherein the rigid die attach material comprises a polyolefin.

148. The integrated circuit package of claim 136, wherein the rigid die attach material comprises a polyimide.

149. The integrated circuit package of claim 136, wherein the rigid die attach material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.

150. The integrated circuit package of claim 136, wherein the rigid die attach material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.

151. The integrated circuit package of claim 136, wherein the rigid die attach material comprises a mixture of a poly epoxide and a polyimide.

152. The integrated circuit package of claim 136, wherein the rigid die attach material comprises a copolymer of a poly epoxide and a polyimide.

153. The integrated circuit package of claim 136, wherein the rigid die attach material has a Shore A hardness of greater than about 70.

154. The integrated circuit package of claim 136, wherein the rigid die attach material has a Shore D hardness of greater than about 20.

155. A memory circuit package comprising:
a substrate;
a die; and
a material having a Young's modulus of between about .1 and about 20, at a solder reflow temperature, attaching the die to the substrate.

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156. The memory circuit package of claim 155, wherein the substrate comprises a glass-epoxide.
157. The memory circuit package of claim 155, wherein the die comprises one or more memory cells.
158. The memory circuit package of claim 155, wherein the die comprises one or more processor circuits.
159. The memory circuit package of claim 155, wherein the die comprises one or more logic circuits.
160. The memory circuit package of claim 155, wherein the die comprises one or more application specific integrated circuits.
161. The memory circuit package of claim 155, wherein the material comprises one or more epoxides, poly epoxides, copolymers of epoxides, or mixtures thereof.
162. The memory circuit package of claim 155, wherein the material comprises a poly epoxide formed from one epoxide.
163. The memory circuit package of claim 155, wherein the material comprises a poly epoxide formed from two or more epoxides.
164. The memory circuit package of claim 155, wherein the material comprises a polyacrylate.
165. The memory circuit package of claim 155, wherein the material comprises a polyolefin.

166. The memory circuit package of claim 155, wherein the material comprises a polyimide.
167. The memory circuit package of claim 155, wherein the material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.
168. The memory circuit package of claim 155, wherein the material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.
169. The memory circuit package of claim 155, wherein the material comprises a mixture of a poly epoxide and a polyimide.
170. The memory circuit package of claim 155, wherein the material comprises a copolymer of a poly epoxide and a polyimide.
171. The memory circuit package of claim 155, wherein the material has a Shore A hardness of greater than about 70.
172. The memory circuit package of claim 155, wherein the material has a Shore D hardness of greater than about 20.
173. An memory circuit package comprising:
a substrate;
a die; and
a material having a low coefficient of thermal expansion attaching the die to the substrate.
174. The memory circuit package of claim 173, wherein the substrate comprises a printed circuit board.

175. The memory circuit package of claim 173, wherein the die comprises one or more dynamic random access memory circuits fabricated on a semiconductor.
176. The memory circuit package of claim 173, wherein the material comprises one or more polyimides.
177. The memory circuit package of claim 173, wherein the material comprises a poly epoxide formed from one epoxide.
178. The memory circuit package of claim 173, wherein the material comprises a poly epoxide formed from two or more epoxides.
179. The memory circuit package of claim 173, wherein the material comprises a polyacrylate.
180. The memory circuit package of claim 173, wherein the material comprises a polyolefin. ~~(Claim 180 is crossed out)~~
181. The memory circuit package of claim 173, wherein the material comprises a polyimide.
182. The memory circuit package of claim 173, wherein the material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.
183. The memory circuit package of claim 173, wherein the material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.
184. The memory circuit package of claim 173, wherein the material comprises a mixture of a poly epoxide and a polyimide.

185. The memory circuit package of claim 173, wherein the material comprises a copolymer of a poly epoxide and a polyimide.

186. The memory circuit package of claim 173, wherein the material has a Shore A hardness of greater than about 70.

187. The memory circuit package of claim 173, wherein the material has a Shore D hardness of greater than about 20.

188. A memory circuit package comprising:
a substrate;
a die; and
a rigid die attach material attaching the die to the substrate.

189. The memory circuit package of claim 188, wherein the die comprises one or more static random access memory cells.

190. The memory circuit package of claim 188, wherein the rigid die attach material comprises one or more epoxides, poly epoxides, copolymers of epoxides, or mixtures thereof.

191. The memory circuit package of claim 188, wherein the rigid die attach material comprises a poly epoxide formed from one epoxide.

192. The memory circuit package of claim 188, wherein the rigid die attach material comprises a poly epoxide formed from two or more epoxides.

193. The memory circuit package of claim 188, wherein the rigid die attach material comprises a polyacrylate.

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194. The memory circuit package of claim 188, wherein the rigid die attach material comprises a polyolefin.
195. The memory circuit package of claim 188, wherein the rigid die attach material comprises a polyimide.
196. The memory circuit package of claim 188, wherein the rigid die attach material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.
197. The memory circuit package of claim 188, wherein the rigid die attach material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.
198. The memory circuit package of claim 188, wherein the rigid die attach material comprises a mixture of a poly epoxide and a polyimide.
199. The memory circuit package of claim 188, wherein the rigid die attach material comprises a copolymer of a poly epoxide and a polyimide.
200. The memory circuit package of claim 188, wherein the rigid die attach material has a Shore A hardness of greater than about 70.
201. The memory circuit package of claim 188, wherein the rigid die attach material has a Shore D hardness of greater than about 20.
202. A communication system package comprising:
 - a circuit board;
 - a die; and

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a material having a Young's modulus of between about 1 megapascals and about 20 megapascals, at a solder reflow temperature, attaching the die to the circuit board.

203. The communication system package of claim 202, wherein the die comprises a communication circuit.

204. The communication system package of claim 202, wherein the material comprises one or more epoxides, poly epoxides, copolymers of epoxides, or mixtures thereof.

205. The communication system package of claim 202, wherein the material comprises a poly epoxide formed from one epoxide.

206. The communication system package of claim 202, wherein the material comprises a poly epoxide formed from two or more epoxides.

207. The communication system package of claim 202, wherein the material comprises a polyacrylate.

208. The communication system package of claim 202, wherein the material comprises a polyolefin.

209. The communication system package of claim 202, wherein the material comprises a polyimide.

210. The communication system package of claim 202, wherein the material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.

211. The communication system package of claim 202, wherein the material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.

212. The communication system package of claim 202, wherein the material comprises a mixture of a poly epoxide and a polyimide.

213. The communication system package of claim 202, wherein the material comprises a copolymer of a poly epoxide and a polyimide.

214. The communication system package of claim 202, wherein the material has a Shore A hardness of greater than about 70.

215. The communication system package of claim 202, wherein the material has a Shore D hardness of greater than about 20.

216. A communication system package comprising:

a substrate;

a die; and

~~a material having a low coefficient of thermal expansion attaching the die to the substrate.~~

217. The communication system package of claim 216, wherein the substrate comprises a multilayered substrate.

218. The communication system package of claim 216, wherein the die comprises a communication circuit fabricated on a semiconductor.

219. The communication system package of claim 216, wherein the material comprises one or more acrylates, polyacrylates, or mixtures thereof.

220. The communication system package of claim 216, wherein the material comprises a poly epoxide formed from one epoxide.

221. The communication system package of claim 216, wherein the material comprises a poly epoxide formed from two or more epoxides.
222. The communication system package of claim 216, wherein the material comprises a polyacrylate.
223. The communication system package of claim 216, wherein the material comprises a polyolefin.
224. The communication system package of claim 216, wherein the material comprises a polyimide.
225. The communication system package of claim 216, wherein the material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.
226. The communication system package of claim 216, wherein the material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.
227. The communication system package of claim 216, wherein the material comprises a mixture of a poly epoxide and a polyimide.
228. The communication system package of claim 216, wherein the material comprises a copolymer of a poly epoxide and a polyimide.
229. The communication system package of claim 216, wherein the material has a Shore A hardness of greater than about 70.
230. The communication system package of claim 216, wherein the material has a Shore D hardness of greater than about 20.

231. A communication system package comprising:
a ceramic substrate;
a die; and
a rigid die attach material attaching the die to the substrate.
232. The communication system package of claim 231, wherein the ceramic substrate comprises a multilayered ceramic substrate.
233. The communication system package of claim 231, wherein the die comprises a transmitter fabricated on silicon.
234. The communication system package of claim 231, wherein the die comprises one or more memory circuits.
235. The communication system package of claim 231, wherein the die comprises one or more processor circuits.
236. The communication system package of claim 231, wherein the die comprises one or more logic circuits.
237. The communication system package of claim 231, wherein the die comprises one or more application specific integrated circuits.
238. The communication system package of claim 231, wherein the rigid die attach material comprises an epoxide.
239. The communication system package of claim 231, wherein the rigid die attach material comprises a poly epoxide formed from one epoxide.

240. The communication system package of claim 231, wherein the rigid die attach material comprises a poly epoxide formed from two or more epoxides.

241. The communication system package of claim 231, wherein the rigid die attach material comprises a polyacrylate.

242. The communication system package of claim 231, wherein the rigid die attach material comprises a polyolefin.

243. The communication system package of claim 231, wherein the rigid die attach material comprises a polyimide.

244. The communication system package of claim 231, wherein the rigid die attach material comprises a mixture of at least two of a poly epoxide, polyacrylate, polyimide, and polyolefin.

245. The communication system package of claim 231, wherein the rigid die attach material comprises a copolymer of at least two of a poly epoxide, a polyacrylate, polyimide, and polyolefin.

246. The communication system package of claim 231, wherein the rigid die attach material comprises a mixture of a poly epoxide and a polyimide.

247. The communication system package of claim 231, wherein the rigid die attach material comprises a copolymer of a poly epoxide and a polyimide.

248. The communication system package of claim 231, wherein the rigid die attach material has a Shore A hardness of greater than about 70.

249. The communication system package of claim 231, wherein the rigid die attach material has a Shore D hardness of greater than about 20.
250. A method of packaging a die, the method comprising:
positioning a die on a substrate;
providing a die attach material having a Young's modulus of between about .1 megapascal and 20 megapascals, at a solder reflow temperature, to secure the die to the substrate; and
reflowing one or more solder balls in contact with the substrate and a board.
251. A method of packaging a die, the method comprising:
positioning a die on a substrate; and
providing a die attach material having a coefficient of thermal expansion of less than about 400 (four-hundred) to secure the die to the substrate.

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